CONFERENCE ON DISARMAMENT

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PROGRESS REPORT TO THE CONFERENCE ON DISARMAMENT ON THE TWENTY-NINTH SESSION OF THE AD HOC GROUP OF SCIENTIFIC EXPERTS TO CONSIDER INTERNATIONAL CO-OPERATIVE MEASURES TO DETECT AND IDENTIFY SEISMIC EVENTS

1. The Ad Hoc Group of Scientific Experts to Consider International Co-operative Measures to Detect and Identify Seismic Events, initially established in pursuance of the decision taken by the Conference of the Committee on Disarmament on 22 July 1976, held its twenty-ninth formal session from 19-29 March 1990, in the Palais des Nations, Geneva, under the Chairmanship of Dr. Ola Dahlman of Sweden. This was the twenty-first session of the Group convened under its new mandate by the decision of the Committee on Disarmament at its 48th meeting on 7 August 1979.

2. The Ad Hoc Group continues to be open to all member States of the Conference on Disarmament, as well as upon request to non-member States. Accordingly, scientific experts and representatives of the following member States of the Conference on Disarmament participated in the session: Australia, Canada, China, Czechoslovakia, Egypt, German Democratic Republic, Germany, Federal Republic of, Hungary, India, Iran (Islamic Republic of), Italy, Japan, Netherlands, Pakistan, Poland, Romania, Sweden, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland and the United States of America.

3. At their request and on the basis of previous invitations by the Conference on Disarmament, scientific experts and representatives from the following non-member States of the Conference on Disarmament participated in the session: Austria, Denmark, Finland, New Zealand, Norway, Spain and Switzerland.

4. Two representatives of the World Meteorological Organization also attended the session.

5. Under the current mandate of the Ad Hoc Group, information on national investigations related to the work of the Group has been presented by experts from Australia, Austria, Belgium, Bulgaria, Canada, Czechoslovakia, Denmark, Egypt, Finland, German Democratic Republic, Germany, Federal Republic of, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Netherlands, New Zealand, Norway, Peru, Poland, Romania, Spain, Sweden, Switzerland, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland and United States of America.

6. The Ad Hoc Group reviewed the initial results of experimental activities during Phase 2 of its Second Technical Test (GSETT-2). The Group noted that 21 countries participated in the first stage of the gradual build-up to the

envisaged full-scale operation of the system to be tested. For the 16 January -6 March trial test, National Data Centers (NDCs) were established in each of the 21 participating countries, 4 experimental International Data Centers (EIDCs) were established and operated, and modern international communications links were put into place. The Group considered the overall results of these preliminary tests to be useful for planning the full-scale experiment, although not all of the essential functions were tested. The total volume of data collected, exchanged and analyzed in just one day of this warm-up phase was much greater than the sum of data in all previous experiments undertaken by the Group.

7. Those countries which participated were generally successful in extracting seismic data and transmitting these data to experimental International Data Centres (EIDCs). The Group noted with satisfaction that a number of additional countries expressed their intention to take part in future GSETT-2 activities, and are making preparations in this regard. Still, the Group considers even broader participation to be essential, in order to meet the objectives of GSETT-2.

The Group confirmed that the main focus of attention in GSETT-2 will be on the exchange of seismic waveform segments (Level II data) and the analysis of those data at EIDCs. Nevertheless, the Group agreed that seismic parameter data (Level I data) are also important, and that countries which at present are able to provide seismic parameter data only should also be encouraged to participate.

8. Also at experimental IDCs, valuable experience was gained. The Ad Hoc Group noted that the workload was heavier than expected, and that further procedures must be developed and evaluated in order to fully realize the potential of using Level I and, in particular, Level II data. However, it is essential to establish the planned direct inter-computer satellite links between the EIDCs in Moscow and Washington, D.C.

9. With regard to the use of WMO/GTS for seismic data exchange during GSETT-2, the Group and the WMO representatives agreed that further preparatory work is needed before the WMO/GTS communications channels can accommodate the voluminous Level II data. The Group welcomed a suggestion by the WMO to be represented at the forthcoming meeting (21-28 May 1990) of the WMO Commission for Basic Systems' Working Group on the GTS to discuss this issue and to provide the WMO with the needs of the Ad Hoc Group for GSETT-2. The Ad Hoc Group suggests that, on the understanding that there are no financial implications for the Conference on Disarmament, Mr. Peter Basham of Canada be requested to represent the Group at that meeting, and that Mr. Shigeji Suyehiro of Japan be requested to assist him on this matter.

10. In the light of the experience accumulated so far, the Group revised its preliminary plans and instructions for GSETT-2, and agreed to proceed in accordance with the schedule annexed to this progress report.

11. During the time period until the Group's next session, Phase 2 of GSETT-2 will continue with a number of activities, gradually building up to the envisaged full-scale operation of the system to be tested:

- New NDCs will be established by countries planning to join the GSETT-2, and communication links between these NDCs and EIDCs will also be established.

- New procedures will be worked out and tested regarding processing of Level I and II data at EIDCs.

- Tests involving exchange of data from all participating stations and the processing of these data at all four EIDCs will be conducted for four additional days (19, 20, 26, 27 June 1990).

12. The Group also discussed the schedule for the full-scale test (Phase 3) of GSETT-2. In the light of experiences gained so far, and in order to enable additional countries to make the necessary preparations, the Group decided to revise the preliminary schedule. The Group now plans to carry out the full-scale test (Phase 3) in two parts. The first part will comprise preparatory testing during the second half of 1990. The main phase of GSETT-2, involving continuous full-scale operation over an extended period of time, will be conducted during the first half of 1991.

13. The Ad Hoc Group suggests that its next session, subject to approval by the Conference on Disarmament, should be convened from 30 July-10 August 1990.

Annex

Schedule of Remaining GSETT-2 Activities

April 1990 until end of the main phase (Phase 3)

- EIDC facilities remain open for development and testing of NDC-EIDC and inter-EIDC communications links and establishment of correct message formatting by NDCs.

- NDCs conduct practical tests to establish appropriate NDC-EIDC connections.

April, May 1990

- EIDCs work jointly to improve procedures for FEB production by reprocessing data from the March 6 data day, on a schedule to be agreed among them. EIDCs will request NDCs to transmit any missing data for that day.

21-28 May 1990

- Mr. Peter Basham, and Mr. Shigeji Suyehiro (if necessary), attend the meeting of the WMO Commission for Basic Systems' Working Group to conduct preparatory discussions on using the WMO/GTS during GSETT-2.

3-8 June 1990

- Informal meeting of the EIDC Co-ordinators and their technical staff to review results of the April/May reprocessing experiment and work out procedures to be used for further Phase 2 experiments. This meeting will be hosted by the United States EIDC Co-ordinator in Los Angeles.

19, 20, 26, 27 June 1990 (4 data days)

- Further Phase 2 data exchange and processing, according to agreed time schedules.

July 1990

- Further processing at EIDCs of data collected for the June data days, and evaluation of the results in co-operation among IDCs.

30 July-10 August 1990

- Thirtieth GSE session in Geneva to evaluate progress and plan further phases.

12-18 November 1990 (tentative)

- Preparatory test for full-scale experiment - all procedures will be tested for seven consecutive data days.

February 1991

- Thirty-first GSE session in Geneva to evaluate progress and plan the Phase 3 full-scale experiment.

1 April-26 May 1991 (tentative)

- Phase 3 full-scale experiment for 56 consecutive data days.

July/August 1991

Phase 4:

- Thirty-second GSE session in Geneva to evaluate GSETT-2 and prepare a report to the CD.